

Notice of Allowability

Application No.

10/773,218

Examiner

Dung X. Nguyen

Applicant(s)

TSURUMI ET AL.

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on 20 March 2006.
2. ☒ The allowed claim(s) is/are 1, 2, 8, 9, 12, and 13, renumbered as 1 - 6, respectively.
3. ☒ The drawings filed on 09 February 2004 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/604,838.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DXN
April 24, 2006

Examiner's Amendment

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Eckhard H. Kuester on April 24, 2006.

IN CLAIMS:

In claim 1, "said sub-band" as recited in line 15 has been changed to "each sub-band".

In claim 2, "said sub-band" as recited in line 15 has been changed to "each sub-band".

In claim 8, "said sub-band" as recited in line 16 has been changed to "each sub-band".

In claim 9, "said sub-band" as recited in line 17 has been changed to "each sub-band".

In claim 12, "said sub-band" as recited in line 16 has been changed to "each sub-band".

In claim 13, "said sub-band" as recited in line 17 has been changed to "each sub-band".

In claim 13, "the outside of the scope" as recited in lines 15-16 has been changed to "an outside of a scope".

Allowable Subject Matter

2. **Claims 1, 2, 8, 9, 12, and 13 are allowed, re-numbered as 1 – 6, respectively.** The following is an examiner's statement of reasons for allowance:

Regarding to claims 1 and 2, the prior art of record fails to show or render obvious of an orthogonal demodulation section converts the frequency of received signals to a lower band after rejecting an image band and an A/D converter section converts the whole range into digital signal. Then, a channel selection selects and outputs in desirable channel. Wherein the frequency converter divides the input signals containing the plurality of channels into a plurality of sub-bands and converts the frequency of the output of the filter into the low range each sub-band.

Regarding to claims 8 and 12, the prior art of record fails to show or render obvious of an orthogonal demodulation section converts the frequency of received signals to a lower band after rejecting an image band and an A/D converter section converts the whole range into digital signal. Then, a channel selection selects and outputs in desirable channel. Wherein the frequency converter comprises:

- A local oscillator which divides the band of the plurality of channels into a plurality of sub-bands and outputs a local oscillating output whose frequency has been changed at intervals of a bandwidth or more of each sub-band;
- An analog orthogonal demodulator which converts the frequency of input signals of the plurality of channels into the low range per each sub-band by multiplication of the local oscillating output and the input signals.

Regarding to claims 9 and 13, the prior art of record fails to show or render obvious of an orthogonal demodulation section converts the frequency of received signals to a lower band after rejecting an image band and an A/D converter section converts the whole range into digital signal. Then, a channel selection selects and outputs in desirable channel. Wherein the frequency converter comprises:

Art Unit: 2611

- A local oscillator which divides the band of the plurality of channels into a plurality of sub-bands and outputs a local oscillating output whose frequency is on an outside of a scope of the band of each sub-band and whose frequency has been changed at intervals of the bandwidth or more of each sub-band; and
- An analog orthogonal demodulator which converts the frequency of the input signals of the plurality of channels into the low range per each sub-band by multiplication of the local oscillating output and the input signals.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung X. Nguyen whose telephone number is (571) 272-3010. The examiner can normally be reached on Monday through Friday from 8:00 AM to 17:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Fan, Chieh M. can be reached on (571) 272-3042. The fax phone numbers for this group is (571) 273-3021.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2600.

DXN

April 24, 2006


CHIEH M. FAN
SUPERVISORY PATENT EXAMINER